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ABSTRACT

This document provides critical reviews of 18 computer software programs designed to provide some form of substance abuse education for students in elementary and secondary schools. Evaluation and review procedures used to create this publication are discussed in the introduction and the products which were evaluated are listed. Overall results of the review are summarized in a section on findings and an evaluation summary table gives the final scores each program package received on each evaluation criteria used. The findings section notes that: (1) 11 of the 18 programs were linear tutorials with very little branching and all of the tutorials were very text-intensive, requiring a considerable amount of reading; (2) most of the packages did a fairly good job of stressing the harmful effects of alcohol and other drug use, but legality of alcohol and drug use was addressed in only a few instances; (3) none of the programs were intended to be comprehensive for all grades; and (4) programs received low scores for supplementary materials which accompanied the program disk. The products reviewed were rated as good at accurately presenting content, avoiding stereotyping, and being easy to use. For each of the 18 programs, the product description section lists the program title, hardware needed, cost, copyright year, audience, a brief description, possible uses, strengths, weaknesses, and additional comments. A list of producer contact information is included and the software evaluation form is appended. (NB)

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THE Northwest Regional Educational Laboratory

TECHNOLOGY PROGRAM

SOFTWARE FOR SUBSTANCE ABUSE EDUCATION

A CRITICAL REVIEW OF PRODUCTS

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October 1988

MicroSIFT
and
The Western Center for Drug-Free
Schools and Communities

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The authors of the MicroSIFT Quarterly Report would like to take this opportunity to acknowledge and to thank the software reviewing team for their efforts in this project. The team consisted of the following individuals:

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INTRODUCTION

In response to an increased interest in substance abuse prevention, the MicroSIFT Project elected to focus its evaluation efforts on software products specifically designed for use in substance abuse education. Our approach was to call on the resources, staff, and network of trained professionals of Northwest Regional Educational Laboratory's (NWREL's) Western Center for Drug-Free Schools and Communities to provide the software reviewers and research data.

Our first step was to develop a software evaluation form which would account for the special characteristics of software in this area. Several evaluation models were combined to create the evaluation form used in this project and which appears at the conclusion of this report. These include:

- MicroSIFT Software Evaluation criteria
- "Curricula and Programs for Drug and Alcohol Education"
- "Criteria for the Selection of Drug Abuse Prevention Curricula: A Workbook"
- "The Role of Curriculum Tools in Drug and Alcohol Abuse Prevention"

Eighteen software packages were identified using the RICE database and were obtained from the producers. Each package was examined by at least one, and in most cases two, reviewers selected by the staff of the Western Center, plus a staff member from NWREL's Technology Program. The results of the reviews were synthesized to make this report.

LIST OF PRODUCTS EVALUATED

Title	Producer	Price	Hardware	Tutorial	Game	Sim.	Tool
Alcohol & Pregnancy	SAS	$89.95	A I	✔			
Alcohol, An Educational Simulation—The Party	Marshware	$52.45	A			✔	
Alcohol: 4 Interactive Programs	SAS	$89.95	A I	✔			
BARN: Alcohol & Other Drugs Module	Learning Multi-Syst.	$120.00	A	✔	✔	✔	
Cocaine	SAE	$39.95	A I	✔		✔	
Dangers of Drugs, The	Queue	$49.95	A I	✔			
Drinking & Not Drinking: The Choice is Yours—Alcohol	SAE	$39.95	A I	✔			
Drug Abuse	Queue	$39.95	A I M T	✔			
Drug Alert!	Mindscape	$39.95	A		✔		
Drug Pursuit I & II	CompTech	$39.95ea	A		✔		
Drugs & Heartbeat: Experiments with a Daphnia	Cross	$29.95	A			✔	
Drugs: Their Effects On You	Marshware	$52.45	A	✔			
Drugs: Who's In Control	Marshware	$52.45	A			✔	
Great Knowledge Race, The: Substance Abuse	Focus	$45.00	A		✔		
Introduction to Psychoactive Drugs	SAE	$39.95	A I	✔			
Keep Off The Grass—Marijuana	SAE	$39.95	A I	✔	✔		
Six Classes of Psychoactive Drugs	SAE	$39.95	A I	✔	✔		
Substance Abuse Support Group Data Base	SAE	$39.95	A I				✔
TUTORSYSTEMS: Alcohol & Health	BLS	$120.00	A	✔			

KEY: A - Apple II, I - IBM PC, M - Macintosh, T - TRS-80

OUR FINDINGS

The Evaluation Summary Table on the following page gives the final scores each package received on each evaluation criteria used. The overall results are somewhat disappointing for a variety of reasons.

- The Tutorials—Most of the packages (11 out of the 18) were linear tutorials which involved little more than a series of text screens followed by one or more questions on the materials presented. Generally, the questions were either multiple-choice or true/false. Branching was absolutely minimal, progressing to the next step regardless of how well the student did on the questions. A few of the packages (Marshware products) employ loop-back type branching which simply takes the student back to the screen in the tutorial containing the answer to the question he/she has missed. Most of the packages make up for the lack of branching with detailed feedback on every student response (products from SAE and Queue). In this case the student receives a text narrative explaining why he/she was right or wrong before the program advances to the next part of the tutorial. All of the tutorials were very text-intensive requiring a considerable amount of reading. Graphics were used to enhance the text presentation with varying degrees of success and the packages from SAS and Marshware doing the better job. In general, the tutorials were said to be boring (note low scores under "Motivating") and did not engage the student.

- Illegal and Harmful—Most of the packages reviewed did a fairly good job at stressing the harmful effects of alcohol and other drug use. But, if this were the only message delivered, the implication would be that students have a choice about using substances. What is frequently omitted is that alcohol and other drug use is illegal for young people. Legality was addressed in a few instances but only in terms of what the law says about drug use. The school should be stressing "no use." Research has shown that activities which focus on decision-making about substance use where pros and cons of use are indicated, give students conflicting messages (Klitzner 1987). Decision-making is an effective prevention approach when it is focused on "social problem-solving" and planning.

- Target Audience—The tutorials and the game programs use a knowledge-based approach. That is, they present facts about the effects of alcohol and other drug use. This method, done in isolation, will have little impact on student use. In fact, it may even increase student use by raising awareness of the effects of substances (Klitzner 1987, Benard 1986). Successful approaches to prevention programs include a balance of peer resistance skills, alternative activities, and information about alcohol and other drugs. This is difficult to simulate on a computer but is done with some success in "Alcohol: 4 Interactive Programs," "Drugs: Their Effects On You," and "Drugs: Who's In Control?"

  Two critical audiences for substance abuse prevention programs are middle school and "at-risk" students. Middle school students are in a transition period and if we are able to delay use past these critical years, a student is less likely to abuse alcohol or other drugs in high school and later years. Social skills programs at this age are especially appropriate (Benard 1986). Adolescence is a high-risk period for all youth but, students who are statistically "at-risk" to using substances because of factors such as low academic achievement, parental use, or low socioeconomic status, may not be motivated by the tutorial approach of most of these packages. It is important that a student who is identified as being at-risk to using alcohol and other drugs not be isolated and stigmatized but integrated into a healthy peer group. The programs which encourage group participation would be more effective for this audience.

  Any successful substance abuse curriculum will have components in place at every grade level. None of these programs were intended to be comprehensive. We have noted appropriate audiences for each program and where each would fit in a comprehensive curriculum.

- Documentation—Another consistently low-scoring category was the supplementary materials which accompany the program disk. In many cases the documentation was almost nonexistent and included minimal information for using the program. In most cases, little information was

found which really gave the teacher enough information to make effective use of the package in a classroom setting.

On the brighter side, there were a few points where the products were generally very good. These include:

- Content Accuracy—The content which was presented was generally very accurate with the only negative aspect being a tendency to overemphasize the harmful effects.
- Stereotyping—Very little race, sex, or ethnic stereotyping was noted.
- Ease of Use—Almost all of the packages were very easy to use (Apple versions, especially).

There were a few products which caught the attention of the reviewers and are worthy of further consideration. For the reasons stated above and because of the differences in teaching styles, we strongly recommend previewing a package prior to purchase.

- Alcohol, An Educational Simulation - The Party—This simulation provides an excellent opportunity for students to see how social drinking effects blood/alcohol level (BAL) and its subsequent influence on behavior and consequences.
- Drugs: Who's In Control—The large-group activity provides an opportunity to discuss and apply peer resistance skills.
- Drugs: Their Effects On You—This package is worth considering because even though it is strictly a tutorial, it does one of the better jobs at introducing resistance techniques.
- Alcohol: 4 Interactive Programs and Alcohol & Pregnancy: Protecting the Unborn Child—Both of these programs are tutorials covering similar materials but are intended for different audiences. Although not exemplary, both are recommended because of their thorough coverage of the material and because both address peer refusal skills.

EVALUATION SUMMARY TABLE

KEY: 5 Exemplary
4 Very Good
3 Good
2 Fair
1 Poor
N Does Not Apply

PACKAGE TITLE	Content is Accurate	Cognitive & Behavioral Approaches	Stresses Illegal & Harmful	Free of Stereotyping	Not Time-bound	**Content Rating**	Appropriate Difficulty Level	Curricular Fit	Clear Goals & Objectives	Program is Effective	Clear & Logical Presentation	Graphics, Color & Sound	Motivating	Effective Feedback	Self-Pacing	Error Handling	**Instructional Rating**	Comprehensive Support Materials	Effective Support Materials	Well-done Screen Displays	Easy to Learn & Use	Teacher can Easily Employ	Appropriate Use of Computer	Reliability	**Technical Rating**	**Overall Rating**
Alcohol & Pregnancy	3	3	2	3	3	**3**	3	3	3	3	4	4	3	2	2	3	**3**	3	3	5	5	4	3	3	**4**	**3**
Alcohol, An Educational Simulation—The Party	4	5	4	5	5	**4**	4	4	4	4	4	4	4	4	4	4	**4**	4	4	4	5	4	5	5	**4**	**4**
Alcohol: 4 Interactive Programs	3	4	4	2	3	**3**	3	3	3	3	5	4	4	2	2	3	**3**	4	4	5	5	5	4	3	**4**	**3**
BARN: Alcohol & Other Drugs	NOT EVALUATED																									
Cocaine	3	3	2	4	3	**3**	2	3	3	2	3	2	1	3	3	3	**2**	1	1	2	2	3	2	3	**2**	**2**
Dangers of Drugs, The	3	2	4	4	3	**3**	2	3	3	3	3	1	1	3	3	2	**2**	2	2	3	4	4	3	3	**2**	**2**
Drinking & Not Drinking: The Choice is Yours—Alcohol	3	2	2	4	4	**3**	2	3	3	2	2	2	1	2	3	3	**2**	1	1	2	2	3	2	3	**2**	**2**
Drug Abuse	4	2	4	4	3	**3**	2	4	4	3	4	1	1	3	3	2	**3**	2	2	3	4	4	3	3	**3**	**3**
Drug Alert!	3	2	1	4	4	**3**	2	2	3	3	2	4	3	2	3	3	**2**	4	3	4	3	2	3	3	**3**	**3**
Drug Pursuit I & II	2	2	1	N	2	**2**	2	4	1	2	2	3	2	2	2	2	**2**	1	1	3	2	2	2	2	**2**	**2**
Drugs & Heartbeat: Experiments with a Daphnia	3	4	1	N	5	**3**	3	3	2	2	3	4	4	3	4	2	**3**	3	3	3	3	3	5	2	**3**	**3**
Drugs: Their Effects On You	3	2	3	4	4	**3**	4	3	4	3	3	3	1	2	3	3	**2**	2	3	3	4	3	2	4	**3**	**3**
Drugs: Who's In Control	4	4	4	4	4	**4**	4	4	3	N	2	3	4	4	4	3	**3**	2	2	4	4	4	4	4	**3**	**4**
Great Knowledge Race, The: Substance Abuse	3	2	2	3	4	**2**	2	2	1	2	N	3	3	1	N	3	**2**	2	2	3	4	2	2	4	**3**	**3**
Introduction to Psychoactive Drugs	4	3	3	4	4	**4**	2	1	4	2	1	2	1	3	4	3	**2**	1	1	2	2	1	1	3	**2**	**2**
Keep Off The Grass—Marijuana	4	3	2	4	3	**3**	2	3	4	2	3	2	1	2	3	3	**2**	1	1	2	2	3	2	3	**3**	**2**
Six Classes of Psychoactive Drugs	3	2	2	4	3	**3**	2	2	4	2	3	2	1	3	3	3	**2**	1	1	2	2	3	2	2	**2**	**2**
Substance Abuse Support Group Data Base	4	N	N	N	3	**3**	3	N	N	N	N	N	N	N	N	N	**N**	1	1	3	2	2	3	2	**2**	**2**
TUTORSYSTEMS: Alcohol & Health	3	2	1	3	3	**2**	2	2	3	2	3	1	1	2	1	1	**2**	2	2	3	4	3	2	2	**2**	**2**
AVERAGE	3.3	2.8	2.5	3.7	3.5	3.0	2.4	2.9	3.1	2.5	2.9	2.6	2.1	2.5	2.9	2.7	2.4	2.1	2.1	3.1	3.3	3.1	2.8	3.0	2.7	2.6
	CONTENT CHARACTERISTICS						**INSTRUCTIONAL CHARACTERISTICS**											**TECHNICAL CHARACTERISTICS**								

PRODUCT DESCRIPTIONS

Alcohol & Pregnancy: Protecting The Unborn Child
Student Awareness Software
Hardware: 48K Apple II + e c, 256K IBM PC — $89.95
Audience: Grades 7-Adult — **Copyright:** 1988

Description: The package contains two double-sided program disks, a Teacher's Notebook disk, a five-page program syllabus, and a five-page user's manual. Disk 1 covers "Planning For A Healthy Baby," "A Historical Overview," "Fetal Alcohol Syndrome and Fetal Alcohol Effects," "Alcohol and the Human Body," and "Nutrients & Oxygen: Two Important Factors." Disk 2 covers "Fetal Alcohol Exposure," "Nutrition and Fetal Growth," "Questions, Myths, and Answers," "The Maternity Counselor Workshop," and a comprehensive review. The Teacher's Notebook disk is used to review student scores and add information about local counseling resources. Each of the program disks provides interactive tutorials interspersed with games and activities which allow the student the opportunity to apply the information covered in the tutorial.

Possible Uses: This package would be useful at the high school level and can be used by one to possibly three students at a time.

Strengths: The package does a thorough job of covering the materials (including peer refusal skills), is very well-organized, and easy to use. The "Workshop" activities and games give students the opportunity to apply what has been presented.

Weaknesses: Use of the package requires considerable reading and repetition with little interaction on the part of the student. The program accesses the disk frequently making it run slowly. Because the teacher cannot speed up text presentation, it is slow for faster readers. Students just receive the message "Incorrect" if they enter a wrong answer. The package does not address the illegal aspect of drinking.

Alcohol, An Educational Simulation— The Party
Marshware
Hardware: 48K Apple II + e c GS — $52.45
Audience: Grades 6-8 — **Copyright:** 1984

Description: This package consists of one disk and a 17-page user manual with one reproducible data recording form, detailed program instructions, and instructions to the teacher. The software contains an interactive tutorial and a simulation. In the tutorial, the student is presented with a series of 12 multiple-choice questions. After each response the student receives informative text passages which either correct the student or provide further clarification. "The Party" is a simulation of a social gathering where the guests make decisions about alcohol consumption and see the results of their decision. The guest list includes from one to six individual students or groups of students plus a number of guests whose role is determined by the computer. Students must enter their name, age, weight, and sex, and the same personal data for the other guest played by the computer is also revealed. The party begins at 7:00 pm and continues until 12:00 pm. Each hour guests decide the number and type of beverage they plan to consume during the period, whether they plan to gulp or sip the drink, and whether or not they will be eating any pizza. After the students have entered their decisions, a graph is displayed for each guest revealing his/her blood alcohol

concentration at the end of the hour together with a report on their feelings and behavior. Next the guests play a video game which reveals the effect of the blood alcohol concentration on their performance. Other events which could occur during the party include a police raid, guests becoming ill, or a guest passing out and being taken to the hospital. At midnight all guests must go home by choosing to drive, call a cab, call a friend, or ask another guest for a ride. Depending upon the condition of the driver, he/she could arrive home safely, be stopped by police, or be involved in an accident.

Possible Uses: The simulation works with as many as six students or groups of students at a time, however, four is really the ideal. The program fits nicely into the health curriculum.

Strengths: The tutorial presents a lot of good information. The simulation provides an engaging approach to the subject which is both motivating and relevant to students. The presence of other "guests" which the students can observe is an effective feature which allows them to see how alcohol affects individuals of various ages and physical size.

Weaknesses: It is possible to set the age of a guest as low as seven and the program gives no warning of the illegality of drinking at that age.

Comments: One reviewer commented that sometimes students have a tendency to "drink more" and rush through the program to see how the alcohol would affect them in the video game and going home. This may have a positive or negative effect depending upon the attitudes of the students.

Alcohol: 4 Interactive Programs
Student Awareness Software
Hardware: 48K Apple II + e c, 256K IBM PC $89.95
Audience: Grades 7-12 **Copyright:** 1987

Description: The package contains four double-sided program disks, a Teacher's Notebook disk, a 17-page program syllabus, and a 67-page user's manual. Program 1, "Alcohol and Your Health," covers a brief history of alcohol, proof, the physical effects of alcohol, and the factors which influence the effect. Program 2, "Drinking: Risks and Decisions," covers who does and does not drink, reasons for drinking, peer pressure, BAL, noticeable effects of alcohol, and dangers of alcohol. Program 3, "Drinking, Driving and You," covers the effects of alcohol on vision, reactions, and judgment handicapping his/her driving ability; drinking and driving laws, punishments, and fines; and the price you pay for drinking. Program 4, "Questions, Myths, and Answers," provides additional current information designed to dispel commonly held myths about alcohol use. In addition, Program 4 includes a section where students can request additional information on alcohol-related subjects and/or receive information about local drug and alcohol counseling resources. The requests entered by students may be accessed confidentially by the teacher using the Teacher's Notebook disk. The Teacher's Notebook disk is also used to create printed student worksheets, review student scores, and add information about local drug and alcohol resources. Each of the program disks provides interactive tutorials interspersed with games and activities which allow the student the opportunity to apply the information covered in the tutorial. Each program concludes with a review of the material covered. This product is also available from Focus Media under the title "Alcohol: Making the Choice."

Possible Uses: Components of this package are useful in health, driver's education, and career education at the high school level and can be used by one to possibly three students at a time.

Strengths: The package does a thorough job of covering the materials (including peer resistance skills), is very well-organized and easy to use. The "Workshop" activities and games give students the opportunity to apply what has been presented.

Weaknesses: Use of the package requires considerable reading. The program accesses the disk, frequently making it run slowly. Because the teacher cannot speed up text presentation, it is slow for faster readers. Students just receive the message "Incorrect" if they enter a wrong answer. The package tends to overstate the effects of alcohol and the legal information varies between states.

Comments: The program talks down to the students making it more appropriate for use with junior high school students.

Body Awareness Resource Network (BARN): Alcohol & Other Drugs Module
Learning Multi-Systems
Hardware: 64K Apple II + e c GS — $120.00
Audience: Grades 6-12 — **Copyright:** 1985

Description: The package contains five disks and an administrator's manual. The Alcohol and Other Drugs Module contains two tutorials, a quiz, a decision-making activity, two games, and a resource list. The interactive tutorials are titled "Use/Abuse/Dependency" and "Overdose: What To Do" The decision-making activities explores "Should I? (Use This Drug)" The game "You Bet Your Life," is a simulation of the events of a party. The Game "Stay On Track," explores the consequences of drinking and driving. The "Help" section enables the teacher to enter information about local and national drug and alcohol prevention resources. "Alcohol & Other Drugs" is one of six modules in the "Body Awareness Resource Network." The entire series is available for $720.00. This package was not received in time to review.

Cocaine (SAE-7)
SAE Software
Hardware: 64K Apple II family, IBM PC — $39.95
Audience: Grades 7-12 — **Copyright:** 1988

Description: The package contains one disk and a booklet of start-up instructions. The program provides a list of objectives, tutorial lessons, a glossary of terms, a 10-question, multiple-choice self-test, a game, and a "Special Interests" file into which students may enter confidential messages, concerns, or questions to the teacher. The teacher may view or print the contents of the "Special Interests" file at a later time. The tutorials cover the basic concepts of cocaine, the dangers of using cocaine, what cocaine is, and what cocaine does. Each tutorial is a mixture of text and graphic screens and multiple-choice questions. An explanation is given after every response to a question. In the IBM version the student has the option of reading the explanation to the other responses or proceeding with the tutorial. In the game "Snowblind," students may play the role of a 17-year-old high school male, a 22-year-old college female, or a 38-year-old male account executive. In each case, he/she is confronted with a series of situations involving cocaine

in which he/she must choose what to do from a number of options. The student wins if he/she avoids cocaine use and loses if he/she gets hooked.

Possible Uses: This package is useful with highly motivated students, one student or a small group of students at a time.

Strengths: In the IBM version the students may move forward or backward in the sequence of lessons. The "Special Interest" file is a good idea, however, it is poorly implemented. The glossary is a helpful feature.

Weaknesses: The lessons are a linear sequence with no branching or randomization of questions.

User interface on the IBM version is clumsy and inconsistent. For example, to proceed to the next screen the program inconsistently uses the "P," "+," or "Enter" keys. Other times menus work with a single key response or they require pressing "Enter" after making a selection.

Entering comments in the "Special Interest" file is very awkward. There is no word wrap nor is there any way to edit your statement without completely re-entering or erasing from the end.

Comments: The package employs only a cognitive approach to learning.

Dangers of Drugs, The

Queue

Hardware: 48K Apple II series, 64K IBM PC

$49.95, $59.95 with management system (Apple)

Audience: 3rd or 4th grade reading level or above

Copyright: 1987

Description: The package consists of one disk and a 14-page user's manual. The disk provides 10 tutorials, each of which is a series of text passages followed by one or more related multiple-choice, true/false, fill-in-the-blank questions. "Introduction" defines prescription and over-the-counter drugs and gives an overview of the five most widely abused categories of drugs. "Opiates" includes heroin, morphine, opium, and codeine. "Marijuana" discusses marijuana and hashish. "Alcohol" discusses the short- and long-term effects of alcohol abuse and the recovering alcoholic. "Sedatives" discusses barbiturates and tranquilizers and the dangers of combining them with alcohol. "Stimulants and Vapors" discusses cocaine, caffeine and harmful vapors. "Antihistamines" discusses antihistamines and the adverse effects of smoking and chewing tobacco. Two other programs cover "LSD and "PCP" and "Amphetamines." The "Review" identifies various federal and local organizations established to help drug and alcohol abusers. The number correct and incorrect and the percentage correct is given upon completion of each exercise. A management system is available for the Apple version.

Possible Uses: This package is written at a third or fourth grade reading level and is most appropriate for use with individual students.

Strengths: Covers a wide variety of drugs except crack and focuses on the harmful effects. Students are given correct responses and an explanation each time he/she gives an incorrect answer. The package is easy for both the student and teacher to use.

Weaknesses: The lessons are a linear sequence with no branching or randomization of questions. The instructional format of text followed by questions without any variation or graphics is very uninteresting. The sound cannot be turned off.

Comments: The package does not address refusal skills at all.

Drinking & Not Drinking: The Choice is Yours - Alcohol (SAE-1)
SAE Software
Hardware: 64K Apple II family, IBM PC $39.95
Audience: Grades 7-12 **Copyright:** 1988

Description: The package contains one disk and a booklet of start-up instructions. The program provides a list of objectives, tutorial lessons, a glossary of terms, a 20-question, multiple-choice self-test, and a "Special Interests" file into which students may enter confidential messages, concerns, or questions to the teacher. The teacher may view or print the contents of the "Special Interests" file at a later time. The tutorials cover what alcohol is, the physical effects of alcohol, and the psychological effects of alcohol. Each tutorial is a mixture of text and graphic screens and multiple-choice questions. An explanation is given after every response to a question. In the IBM version the student has the option of reading the explanation to the other responses or proceeding with the tutorial.

Possible Uses: This package is useful with highly motivated students, one student or a small group of students at a time.

Strengths: In the IBM version the students may move forward or backward in the sequence of lessons. The "Special Interest" file is a good idea, however it is poorly implemented. The glossary is a helpful feature.

Weaknesses: The lessons are a linear sequence with no branching or randomization of questions. Reading level seems high at some places in the lessons and low at others. Information provided about alcohol and body weight, and the dose-effect of mixing alcohol and drugs is misleading. At the end of the lesson several screens of important information are given without any follow-up questions.

User interface on the IBM version is clumsy and variable. For example, to proceed to the next screen the program inconsistently uses the "P," "+," or "Enter" keys. Other times menus work with a single key response or they require pressing "Enter" after making a selection.

Entering comments in the "Special Interest" file is very awkward. There is no word wrap nor is there any way to edit your statement without completely re-entering or erasing from the end.

The program does not stress the illegality of teen drinking and implies there is a personal decision.

Comments: The package employs only a cognitive approach to learning.

Drug Abuse
Queue
Hardware: 48K Apple II family, 64K IBM PC, 128K Macintosh, 32K TRS-80
Audience: 7th grade reading level or above

$39.95, $49.49 with management system (Apple)
Copyright: 1986

Description: The package consists of one disk and a 12-page user's manual. The software covers the same materials and is very similar to another product from the same producer entitled "The Dangers of Drugs," the major difference being the more advanced reading level. The disk provides 10 tutorials, each of which is a series of text passages followed by one or more related multiple-choice, true/false, fill-in-the-blank questions. The lessons are titled "Introduction," "Opiates," "Marijuana," "LSD and PCP," "Amphetamines," "Alcohol," "Sedatives," "Stimulants and Vapors," "Antihistamines and Tobacco," and "Review." The number correct and incorrect and the percentage correct is given upon completion of each exercise. A management system is available for the Apple version.

Possible Uses: This package is written at about the seventh grade reading level and is most appropriate for use with individual students.

Strengths: Covers a wide variety of drugs except crack and focuses on the harmful effects. Students are given correct responses and an explanation each time he/she gives an incorrect answer. The package is easy for both the student and teacher to use and fits nicely into the seventh grade curriculum.

Weaknesses: The lessons are a linear sequence with no branching or randomization of questions. The instructional format of text followed by questions without any variation or graphics is very monotonous. Both the alcohol and tobacco section should be covered in greater detail. The fill-in-the-blank questions do not account for alternate correct responses. The sound cannot be turned off.

Comments: The package does not address refusal skills at all.

Drug Alert!
Mindscape
Hardware: 48K Apple II + e c GS
Audience: Grades 5-8

$39.95, lab packs $79.90
Copyright: 1986

Description: The package contains one disk, a back-up and a 59-page user's manual containing program operating instructions, lesson plans, and reproducible student worksheets. Drug Alert! is an adventure game in which students are challenged to help a friend who is hooked on drugs get out of a hotel frequented by dealers and users. Students begin in the basement and must go up four floors to the exit. Each floor has two stashes of drugs which the student must find and incinerate before they may go up the elevator to the next floor. Initially, the students find the "Drug Alert! Handbook," a drug information database, which serves as a valuable resource during the adventure. Many pages are missing, however, and as they move from room to room they find and pick up the various missing crumpled pages. Occasionally they encounter other people who will not let them pass until they answer a question about drugs. Students may browse or search the handbook to find the answer or try to find an alternate route. Before the students may leave the hotel they must identify the drug the friend has taken. Each floor contains clues which assist in the identification of the unknown

drug. A drug identification worksheet is available for recording and organizing the clues. A management system maintains the progress and prints reports for up to 40 students.

Possible Uses: The database activities could be used with high school students. The game aspect may be useful as a review.

Strengths: The manual provides a sequence of eight lesson plans about the effects of licit and illicit drugs. The activities make use of the limited database (Drug Alert! Handbook) of information about various drugs.

Weaknesses: The game takes place in a sub-basement of a run-down hotel full of seedy people. Such a scenario is not an accurate picture of how drugs are used by today's youth.

Since searching the database requires browsing various lists, searching the database is laborious and the information provided is very brief.

Comments: Playing a game to completion is likely to take longer than a normal class period, however, the program provides a "Bookmark" which saves the student's progress to disk. Students learn about the various drugs incidentally as they play the game making it difficult to know exactly what the students have learned as a result. Consequently, the activities outlined in the manual may be more valuable to classroom teachers. The game makes a better review than a stand-alone package.

Drug Pursuit I & II
CompTech Systems Design
Hardware: Apple II + e c GS

$39.95 each, $59.95 with management system

Audience: Level I–Grades 6-8, Level II–Grades 9-Adult

Copyright: 1986

Description: Each package contains a program disk with the student program on one side and the teacher utility programs on the other, a question disk, and a seven-page user manual. The program provides an educational game which is a variation of the board game "Trivial Pursuit." One to four students compete in a bicycle race by correctly answering fill-in-the-blank trivia questions about drugs. To win, students must be the first to correctly answer at least one question from each of five categories. A colorful map and several scenes help the student track his/her progress along the race course. The categories initially provided are uppers, downers, inside/out, tobacco/pot, and potpourri. The categories are the same on both level I and II but level I is appropriate for grades 6-8 while level II is appropriate for grades nine and above. The teacher utility program enables teachers to create, edit, and print question sets; define races; generate reports; and create "Race Information Disks" for storing student and race information. A save race feature enables students to complete an unfinished race at another time.

Possible Uses: The program could be used as a review at the end of a drug education unit.

Strengths: The teacher can enter up to three alternate correct answers for each question. The fill-in-the-blank format requires proper spelling. The ability to add and modify the question makes the program applicable to many different topics.

Weaknesses: There is no way to exit the functions of the teacher utility program once you have begun. Numerous disk accesses make the program run very slowly.

The materials provided uses a lot of slang terms which carry positive connotations about drugs. Success with the program indicates a good knowledge of a lot of street slang about drugs.

Comments: Disk swapping is required even with two disk drives. With one disk drive, disks must be exchanged with each question.

Drugs & Heartbeat: Experiments with a Daphnia
Cross Educational Software
Hardware: 48K Apple II + e c GS $29.95
Audience: Grades 7-12 **Copyright:** 1987

Description: The package includes a program disk, a back-up disk, an 11-page teacher's guide, and a student heartbeat data record sheet. The program begins with a brief tutorial which explains stimulants and depressants, background and anatomy of the Daphnia, and how to perform the experiment. In the experiment, students apply various drugs to a Daphnia specimen in the simulated lab. For each application of a drug the student must observe the Daphnia and calculate the heart rate by counting the heartbeats for a timed interval. Heart rates are recorded for the Daphnia's normal rate and then under the influence of alcohol, caffeine, nicotine, Valium, cocaine, and codeine. The resulting data may be graphed using the provided graph sheet or using a graphing function included with the program. The support materials provide a quiz and bibliography along with the program operating instructions.

Possible Uses: This package is most appropriate for use in a secondary science class with small groups of two or three students.

Strengths: Students can clearly see the effects of the various drugs on the Daphnia. The graphing capability is a good use of the computer.

Weaknesses: The manual reviews the content but does not give clear program operating instructions. If an error is made during graphing the student must start over. The graphing should be scaled better to allow comparisons of more results.

Comments: The program would be appropriate for infusing drug education into a science class. One can clearly see how drugs affect the Daphnia but the manual states that response to the various drugs differ from that of humans. It is questionable whether the student would get a no-use message from the use of the disk. The heart rate of the Daphnia under the influence of cocaine is too fast to accurately count.

Drugs: Their Effects On You
Marshware
Hardware: 48K Apple II + e c GS $52.45
Audience: Grades 6-8 **Copyright:** 1985

Description: This package contains one disk and an 11-page user's manual. The disk contains a series of eight tutorials, a 25-question quiz, and a dictionary of 14 terms and definitions. The student may choose to do any of the tutorials individually or to do all of the tutorials in order. The tutorials include what a drug is, stimulants, depressants, hallucinogens, narcotics, coping with peer pressure, taking risks, and saying no. Each tutorial is a series of text and graphic presentations reinforced with true/false questions. If the student answers a question incorrectly the program loops him/her back to the tutorial

screen containing the answer. Two of the tutorials relate statistical data to the student's personal experience. For example, at one point the student is asked to enter his/her weight or the weight of someone he/she knows. The computer then calculates the number of drinks that would make that person legally drunk. Another time, the students enter the number of packs of cigarettes per day someone smokes and how long that person has been smoking. The computer calculates how many cigarettes that person has smoked and gives the resulting decrease in his/her life expectancy.

Possible Uses: The package is most appropriate for use with individual students. Small groups of two to three students would also benefit. Students would need to be highly motivated.

Strengths: The portions of the program which relate student-entered data to known outcomes is a helpful feature.

Weaknesses: The lessons are strictly linear with no randomization or branching. Incorrect responses loop back to an earlier portion of the sequence. This format is not particularly interesting and does not engage the student. The reading level seems to be too high in some parts of the program and too low in others. The quiz gives exactly the same questions presented in the lessons.

Drugs: Who's In Control

Marshware

Hardware: 48K Apple II + e c GS, printer recommended $52.45
Audience: Grades 6-8 **Copyright:** 1987

Description: This package contains one disk, a nine-page user manual, and two reproducible student record sheets. The software is designed to manage as many as nine small groups of two to six students each. Half of the students in each group assume the role of a follower, a person who is easily persuaded to go along with the crowd, and the other half of the students assume the role of the friend whose role it is to keep the follower out of trouble. The follower may be either male or female. Each group in turn is presented with a series of four scenarios involving drug or alcohol use. For each scenario, the groups must discuss the situation per his/her assigned point of view, evaluate the choices, weigh the risks, make a decision, and evaluate the results as given by the computer. If a group yields to peer pressure and makes a dangerous choice, that group is likely to encounter higher-risk scenarios in subsequent rounds. Groups which make safe choices are likely to encounter lower-risk scenarios. This package is designed to be used after all of the students have used the first package in the series titled "Drugs: Their Effects on You."

Possible Uses: This program provides a good activity for teaching peer resistance, refusal, decision-making, and critical thinking skills at the middle or junior high level.

Strengths: The computer generates good, realistic scenarios which stimulate group discussion.

Weaknesses: It would be helpful if the user manual included a list of the possible scenarios, choices, and results. Without the printer, there is no way to go back and review the choices after receiving the results.

Comments: The value of this program stems from the interaction which occurs within each of the small groups. The quality of this interaction is more a function of the supervising teacher than of the software.

Great Knowledge Race, The: Substance Abuse

Focus Media

Hardware: 48K Apple II family — $45.00
Audience: Grades 4-8 — **Copyright:** 1987

Description: This package contains a master game disk, a double-sided data disk, and a 10-page manual. "The Great Knowledge Race" is a Trivial Pursuit-like board game for up to four players or teams of players. Players are presented with a game board of colored square symbols in which each symbol represents one of four categories of questions plus a "potluck" category which includes questions from all of the categories. Each player (or team) in turn rolls the die (simulated on the computer, of course), moves around the game board in a path that will place him/her on a desired category, and then answer a multiple-choice question from that category. If he/she answers correctly, he/she wins that category and a chance to roll again. If he/she misses the question the turn goes to the next player. To win the game, a player must be the first to correctly answer at least one question in each of the five categories. The categories available include alcohol, drugs, smoking, and dangers in foods and food additives. Game options available which may be turned on or off are sound, question timer, and a cross on the dice which indicates loss of turn.

Possible Uses: Would best be used as a review game at the end of a unit which covers the materials used.

Strengths: The game flows well and could make a suitable review.

Weaknesses: The packages focuses on facts and trivia and does not stress the illegality of drug use. Answers are either right or wrong and no feedback on why is given. The list of questions used is not covered in the manual, making it difficult for a teacher to know how it fits into his/her curriculum.

Comments: The package employs only a cognitive approach to learning.

Introduction to Psychoactive Drugs (SAE-3)

SAE Software

Hardware: 64K Apple II family, IBM PC — $39.95
Audience: Grades 9-College — **Copyright:** 1987

Description: The package contains one disk and a booklet of start-up instructions. The program provides a brief introduction, tutorial lessons, a glossary of terms, and a 15-question, true/false self-test. The tutorial titled "Drugs, Circulation, and the Nervous System" discusses why some drugs act faster than others, the varying effects of different drugs, why effects differ from person to person, and why some effects last longer than others. The tutorial titled "Drugs, Tolerance, and Dependence" covers tolerance, reverse tolerance, physical and psychological dependency, and addiction. The tutorial titled "Drugs and the Law" covers the motives behind drug laws, and the major federal drug laws. Each tutorial is a mixture of text and graphic screens and multiple-choice questions. An explanation is given after every response to a question. In the IBM version the student has the option of reading the explanation to the other responses or proceeding with the tutorial.

Possible Uses: This package is useful with highly motivated students, one student or a small group of students at a time. The presentations tend to be very technical and would be more appropriate for high school or college students.

Strengths: In the IBM version the students may move forward or backward in the sequence of lessons.

Weaknesses: User interface on the IBM version is clumsy and inconsistent. For example, to proceed to the next screen the program inconsistently uses the "P," "+," or "Enter" keys. Other times menus work with a single key response or they require pressing "Enter" after making a selection.

The lessons are a linear sequence with no branching or randomization of questions. The lesson format is very uninteresting and does not hold the students interest.

Keep Off The Grass - Marijuana (SAE-2)

SAE Software

Hardware: 64K Apple II family, IBM PC $39.95
Audience: Grades 7-12 **Copyright:** 1988

Description: The package contains one disk and a booklet of start-up instructions. The program provides a list of objectives, tutorial lessons, a glossary of terms, a 25-question, multiple-choice self-test, a game, and a "Special Interests" file into which students may enter confidential messages, concerns, or questions to the teacher. The teacher may view or print the contents of the "Special Interests" file at a later time. The tutorials cover what marijuana is, the physical effects of marijuana, and the psychological effects of marijuana. Each tutorial is a mixture of text and graphic screens and multiple-choice questions. An explanation is given after every response to a question. In the IBM version the student has the option of reading the explanation to the other responses or proceeding with the tutorial. In the game "Fact or Fiction," one student against the computer or two students against each other compete to determine whether given questions are fact or fiction. Three levels of difficulty are available.

Possible Uses: This package is useful with highly motivated students, one student or a small group of students at a time.

Strengths: In the IBM version the students may move forward or backward in the sequence of lessons. The "Special Interests" file is a good idea, however it is poorly implemented. The glossary is a helpful feature.

Weaknesses: The lessons are a linear sequence with no branching or randomization of questions.

User interface on the IBM version is clumsy and inconsistent. For example, to proceed to the next screen the program inconsistently uses the "P," "+," or "Enter" keys. Other times menus work with a single key response or they require pressing "Enter" after making a selection.

Entering comments in the "Special Interests" file is very awkward. There is no word wrap nor is there any way to edit your statement without completely re-entering or erasing from the end.

Comments: The program stresses the harmfulness while promoting responsible decision making and does not stress the illegality of the use of marijuana.

Six Classes of Psychoactive Drugs (SAE-4)

SAE Software
Hardware: 64K Apple II family, IBM PC — $39.95
Audience: Grades 9-College — **Copyright:** 1987

Description: The package contains one disk and a booklet of start-up instructions. The program provides a list of objectives, tutorial lessons, a glossary of terms, a 15-question, multiple-choice self-test, and a game. The tutorials cover methamphetamines, barbiturates, cocaine and coca, hallucinogens, opiates, and volatile inhalants. Each tutorial begins by presenting a list of the glossary terms relating to the selected topic followed by a tutorial which is primarily a linear sequence of mixture of text and graphic screens and multiple-choice questions. An explanation is given after every response to a question. The glossary terms may be reviewed at any time during the tutorial. In the IBM version the student has the option of reading the explanation to the other responses or proceeding with the tutorial. In the game "Lights Out," one student against the computer or two students against each other compete to be the first to correctly answer true/false questions. Each player chooses from which of the six categories the questions will be drawn. No more than three questions from any one category is allowed. During the game, the students take turns answering the questions from the categories they choose until one, the winner, has correctly answered ten questions.

Possible Uses: This package is useful with highly motivated students, one student or a small group of students at a time. The presentations tend to be very technical and would be more appropriate for high school or college students.

Strengths: In the IBM version the students may move forward or backward in the sequence of lessons. The glossary is a helpful feature.

User interface on the IBM version is clumsy and inconsistent. For example, to proceed to the next screen the program inconsistently uses the "P," "+," or "Enter" keys. Other times menus work with a single key response or they require pressing "Enter" after making a selection.

Weaknesses: The lessons are a linear sequence with no branching or randomization of questions.

Comments: The program stresses the harmful effects and does not stress the illegality of the use of many of the drugs discussed.

Substance Abuse Support Group Data Base (SAE-5)

SAE Software
Hardware: 64K Apple II family, IBM PC — $39.95
Audience: Grades 7-12 — **Copyright:** 1987

Description: This package contains one disk and a three-page instruction sheet. The program is a database management program and a database of information about over 30 substance abuse support groups. Records are retrieved by first choosing to search the database on the categories of alcohol, marijuana, psychoactive drugs, tobacco, and others and then selecting the organization from the list of those found. The information provided includes the

organization name, address, phone number, and a brief description. A teacher utility option allows records to be added, edited, deleted, or printed. Program operating instructions are from the main menu.

Possible Uses: Could be used as a reference tool for students or by professional drug prevention specialists.

Strengths: The program is very easy to use but very limited in scope.

Weaknesses: The file contains professional organization in the substance abuse field and does not deal with support groups from a student's point of view. Searching the database is limited to the categories provided and no sorting is possible.

Comments: The initial database provided is not comprehensive by any means. Most professionals would already be aware of these organizations and would need to add many others.

TUTORSYSTEMS: Alcohol & Health Program

BLS

Hardware: 48K Apple II + e c GS $120.00
Audience: Students with 6th grade reading level or above. **Copyright:** 1984

Description: This package contains two disks and a 10-page user's manual. Each disk contains a series of tutorials, a mastery test, and a "student monitor" or management system which records and reports the results of the mastery tests. Each lesson is a series of text passages followed by either multiple-choice or true/false questions. The lessons on disk 1 are titled Introduction, Ethyl Alcohol, Brief History, Patterns of Drinking in the United States, Reasons for Drinking Alcohol, Reasons for Not Drinking Alcohol, How Alcohol Affects the Body, Behavior as Affected by Group Drinking, Concentrations of Alcohol in the Bloodstream, Effects of Alcohol on Brain Cells, and Reasons for Drinking to Intoxication. The lessons on disk 2 are titled Introduction, Alcoholic Beverages and Automobile Accidents, Alcoholism, Alcohol and the Law, and Views and Practices Concerning Alcoholic Beverages in the U.S.A.

Possible Uses: Is appropriate for use with individual students.

Strengths: The management system is helpful for maintaining the scores on the mastery tests but does little to keep track of where each student is in the sequence of lessons.

Weaknesses: The instructional format of text followed by questions without any variation or graphics is very uninteresting. No branching is provided and there is no way to go back or to escape from a lesson.

Comments: The program presents facts about alcohol and its use and lets the student decide whether or not to use alcohol. The no-use message is not clearly presented. Students are only given the option of doing all the lessons in order or taking the mastery test, individual lessons are only available from a teacher menu.

PRODUCER CONTACT INFORMATION

BLS
2503 Fairlee Road
Wilmington, Delaware 19810
800/545-7766

CompTech Systems Design
P.O. Box 516
Hastings, Minnesota 55033
612/437-1350

Cross Educational Software
P.O. Box 1536
Ruston, Louisiana 71270 318/255-8921

Focus Media
839 Stewart Avenue
P.O. Box 865
Garden City, New York 11530
800/645-8989
516/794-8900

Learning Multi-Systems, Inc.
320 Holtzman Road
Madison, Wisconsin 53713
608/273-8060

MarshWare, A Division of MarshFilm
P.O. Box 8082
Shawnee Mission, Kansas 66208
800/821-3303, 816/523-1059

Mindscape
3444 Dundee Road
Northbrook, Illinois 60062
800/221-9884

Queue
562 Boston Avenue
Bridgeport, Connecticut 06610
800/232-2224, 203/335-0906

Student Awareness Software (SAS)
P.O. Box 18134
Portland, Oregon 97213
503/287-3530

Substance Abuse Educational Software (SAE)
670 South 4th Street
Edwardsville, Kansas 66113
913/441-1868

REFERENCES

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Fafoglia, Barbara and Bonnie Benard. The Role of Curriculum Tools in Drug and Alcohol Abuse Prevention.Prevention Resource Center, Inc., 1988.

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APPENDIX

MicroSIFT SOFTWARE EVALUATION FORM
for Packages Addressing Substance Abuse

Date: _____ Reviewer: _____

Program Title: _____
Publisher: _____

Reviewer Statement of Non-Violation of Copyright– The producer's copyright was respected during this evaluation, and I did not copy or attempt to copy any portion of this package.

Signature _____ Date _____

REVIEWER'S COMMENTS/
ADVANTAGES & DISADVANTAGES
Write at least one 2 to 10 word comment on each major category, and also, comment on subcategories as appropriate.

1. CONTENT CHARACTERISTICS

	Exemplary	Very Good	Good	Fair	Poor	N/A
Content is accurate						
Content is based on recent research						
Integrates affective cognitive & behavioral approaches						
Stresses substance abuse is illegal & harmful						
Free of sex, race, or ethnic stereotyping						
Materials are not time-bound						
OVERALL						

2. INSTRUCTIONAL CHARACTERISTICS

Appropriate level of difficulty for audience						
Easily fits into overall curriculum						
Contains clearly defined goals & objectives						
There is evidence the program is effective						
Presentation is clear & logical						
Graphics, color & sound are used for appropriate instructional reasons						
Motivating to students/maintains interest						
Employs effective feedback						
Package is self-pacing						
Uses appropriate error handling						
OVERALL						

3. TECHNICAL/MARKETING CHARACTERISTICS

Support materials are comprehensive						
Support materials are effective						
Screen displays are well-done technically						
Program is easy to learn & use						
The teacher can easily employ the package						
Is an appropriate use of the computer						
The program is reliable						
Package is easy to preview & purchase						
Package is cost effective						
OVERALL						

4. OVERALL RATING

OVERALL QUALITY OF PROGRAM-- Consider all appropriate categories above.						

(over)

Potential Uses: Describe the setting in which this package would best be used. Your statement should specify any special target audience the package would be appropriate for; number of students per work station; whether the package is for remediation, standard instruction, or enrichment; any special management considerations; and any other important comments you feel a reader should know about the package.

Northwest Regional Educational Laboratory

Robert R. Rath, Executive Director
Ethel Simon-McWilliams, Associate Director

The Northwest Regional Educational Laboratory (NWREL) is an independent, nonprofit research and development institution established in 1966 to assist education, government, community agencies, business and labor in improving quality and equality in educational programs and processes by:

- Developing and disseminating effective educational products and procedures
- Conducting research on educational needs and problems
- Providing technical assistance in educational problem solving
- Evaluating effectiveness of educational programs and projects
- Providing training in educational planning, management, evaluation and instruction
- Serving as an information resource on effective educational programs and processes including networking among educational agencies, institutions and individuals in the region

Center for Advancement of Pacific Education
John Kofel, Director
Center for National Origin, Race, and Sex Equity
Ethel Simon-McWilliams, Director
Education and Work
Larry McClure, Director
Evaluation and Assessment
Gary Estes, Director

Literacy and Language
Stephen Reder, Director
Planning and Service Coordination
Rex Hagans, Director
R&D for Indian Education
Joe Coburn, Director
School Improvement
Bob Blum, Director
Technology
Don Holznagel, Director

Western Center for Drug-Free School and Communities
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Idaho Falls School District (Idaho)

Homer Kearns
Superintendent
Salem-Keizer School District (Oregon)

Spike Jorgensen
Superintendent
Alaska Gateway School District

John Kohl
Dean, College of Education
Montana State University

Dale Lambert
Teacher
Eastmont School District (Washington)

Joe McCracken
Superintendent
Lockwood Elementary District (Montana)

Zola McMurray
Business Woman
Lewiston, Idaho

G. Angela Nagengast
Teacher
Great Falls High School (Montana)

Edie Orner
Teacher
Corvallis School District (Oregon)

Barney C. Parker (Chairman)
Superintendent
Independent District of Boise (Idaho)

Rosa Salas Palomo
Director of Education
Guam Department of Education

Fred Pomeroy
Superintendent
Kenai Peninsula Borough Schools (Alaska)

Dennis Ray
Superintendent
Walla Walla School District (Washington)

Doris Ray
Fairbanks School Board (Alaska)

Henry Sablan
Superintendent of Education
Commonwealth of Northern Mariana Islands

Tauese Sunia
Director of Education
Government of American Samoa

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